CLAIMS

1. A method of delivering information to multiple networked devices, the method comprising the steps of:

receiving a first request for a first item of information from a first networked device;

receiving a second request for the first item of information from a second networked device; and

forming a combined packet including a first address used for the first networked device, a second address used for the second networked device, and a data payload that includes at least a part of the first item of information, for delivering the data payload to multiple networked devices.

2. The method according to claim 1 further comprising the steps of:

in response to receiving the first request, forming a first packet including the first address and a first data payload;

in response to receiving the second request, forming a second packet including the second address, and a second data payload;

determining that the first packet and the second packet both include the data payload; and thereafter

performing the step of forming a combined packet.

3. The method according to claim 2 wherein the step of determining that the first packet and the second packet both include the data payload comprises the sub-step of:

comparing a byte size of the first packet to a byte size of the second packet.

4. The method according to claim 2 wherein the step of determining that the first packet and the second packet both include the data payload comprises the sub-steps of:

computing a cannonical checksum for the first packet;

computing a cannonical checksum for the second packet; and

comparing the cannonical checksum for the first packet to the cannonical checksum for the second packet.

5. The method according to claim 2 wherein the step of determining that the first packet and the second packet both include the data payload comprises the sub-step of:

performing a byte-by-byte comparison of the data payload of the first packet to the data payload of the second packet.

6. The method according to claim 2 wherein the step of determining that the first packet and the second packet both include the data payload comprises the sub-steps of:

computing a canonical checksum for the first packet;

computing a canonical checksum for the second packet;

comparing the canonical checksum for the first packet and the canonical check sum for the second packet; and

in the case that the canonical checksum for the first packet matches the canonical checksum for the second packet performing a byte-by-byte comparison of the data payload of the first packet and the data payload of the second packet.

7. The method according to claim 2 wherein the step of determining that the first packet and the second packet both include the data payload comprises the sub-step of

reading at least a part of one of the first packet and the second packet from a packet queue.

8. The method according to claim 2 further comprising the steps of:

determining a first next hop destination for the first networked device;

determining a second next hop destination for the second networked device; and

determining that the first next hop destination is the same as the second next hop destination, and thereafter performing the step of forming a combined packet.

9. The method according to claim 2 wherein the step of determining that the first packet and the second packet both include the data payload comprises the sub-steps of:

comparing a byte size of the first packet to a byte size of the second packet; and

in the case that the byte size of the first packet matches the byte size of the second packet:

computing a canonical checksum for the first packet;

computing a canonical checksum for the second packet; and

comparing the canonical checksum for the first packet and the canonical check sum for the second packet.

10. The method according to claim 9 wherein the step of determining that the first packet and the second packet both include the data payload comprises the sub-step of:

in the case that the canonical checksum for the first packet matches the canonical checksum for the second packet, performing a byte-by-byte comparison of the data payload of the first packet and the data payload of the second packet.

11. The method according to claim 2 wherein the step of determining that the first packet and the second packet both include the data payload comprises the sub-steps of:

comparing a byte size of the first packet to a byte size of the second packet; and

in the case that the byte size of the first packet matches the byte size of the second packet, performing a byte-by-byte comparison of the data payload of the first packet and the data payload of the second packet.

12. The method according to claim 1 wherein the step of receiving a first request for a first item of information comprises a sub-step of:

receiving a request for web content.

13. The method according to claim 12 wherein the step of receiving a request for web content includes the sub-step of:

receiving an http request.

14. The method according to claim 1 wherein the step of forming a combined packet includes the sub-steps of:

adding to the combined packet a first reliable unicast header part associated with the first address; and

adding to the combined packet a second reliable unicast header part associated with the second address.

15. The method according to claim 14 wherein:

the sub-step of adding to the combined packet a first reliable unicast header part comprises the sub-step of adding to the combined packet a first TCP header information part associated with the first address; and

the sub-step of adding to the combined packet a second reliable unicast header part comprises the sub-step of adding to the combined packet a second TCP header information part associated with the second address.

16. A method of relaying a packet in a network, the method comprising the steps of:

receiving a data content part of a first packet;

receiving a first destination address part of the first packet;

receiving a second destination address part of the first packet;

receiving a first reliable unicast header part of the first packet that corresponds to the first destination address; and

receiving a second reliable unicast header part of the first packet that corresponds to the second destination address.

17. The method according to claim 16 wherein the step of receiving the first reliable unicast header part comprises the sub-step of:

receiving a first TCP header.

18. The method according to claim 16 further comprising the steps of:

determining a first next hop address based on the first destination address; and

determining a second next hop address based on the second destination address.

19. The method according to claim 18 further comprising the steps of:

comparing the first next hop address to the second next hop address; and

in the case that the first next hop address is equal to the second next hop address, forwarding the first packet to the first next hop in a network.

20. The method according to claim 18 further comprising the steps of:

comparing the first next hop address to the first destination address; and

in the case that the first next hop address is equal to the first destination address, composing a reliable unicast packet including the data content part of the first packet, the first destination address part of the first packet, and the first reliable unicast header part of the first packet.

21. The method according to claim 18 further comprising the steps of:

comparing the first next hop to the second next hop; and

in the case that the first next hop is not equal to the second next hop,

forming a second packet including the data content part of the first packet, the first reliable unicast header part of the first paket, and first destination address of the first packet;

sending the second packet to the first next hop;

forming a third packet including the data content part of the first packet, the second reliable unicast header part of the first packet, and the second destination address of the first packet; and

sending the third packet to the second next hop.

22. The method according to claim 20 wherein the step of composing a reliable unicast packet comprises the sub-step of:

forming a unicast TCP/IP packet including the data content part of the first packet, first destination address part of the first packet, and information derived from the first reliable unicast header part of the first packet.

23. A method of relaying a packet in a network, the method comprising the steps of:

receiving a packet that includes a data content part, a plurality of destination addresses, and a plurality of reliable unicast header parts corresponding to the plurality of destination addresses;

separating the plurality of destination addresses and the corresponding plurality of reliable unicast header parts into a set of groups each of which corresponds to a next hop address; and

composing a set of packets, each of which includes a group of at least one reliable unicast header part and corresponding at least one destination address, and each packet corresponding to a next hop address.

24. The method according to claim 23 wherein the step of composing the set of packets includes the sub-step of

composing one or more unicast packets.

25. The method according to claim 24 wherein the sub-step of composing one or more unicast packets comprises a sub-step of:

composing a TCP/IP packet.

26. A network device comprising:

a comparator for comparing an item of information associated with a first destination address with an item of information associated with a second destination address;

a packet merger for combining the first destination address, the second destination address, and the item of information in a packet; and

a network interface for transmitting the packet.

27. A network device comprising:

a packet parser for receiving a packet and extracting data, and a plurality of destination addresses, a plurality of reliable unicast header parts corresponding respectively to the plurality of destination header addresses; and

an associater for determining next hop addresses based on the plurality of destination addresses, and associating together destination addresses, and reliable unicast header parts that correspond to a common next hop address.

28. The network device according to claim 27 further comprising:

a new packet composer for composing a packet including destination addresses, and reliable unicast header parts that correspond to the common next hop address.

29. A computer readable medium containing programming instructions for distributing information over a network, the computer readable medium including programming instructions for:

receiving a first request for a first item of information from a first networked device;

receiving a second request for the first item of information from a second networked device; and

forming a combined packet including a first address used for the first networked device, a second address used for the second networked device, and at least a part of the first item of information.

30. A computer readable medium containing programming instructions for relaying a packet in a network, the computer readable medium including programming instructions for:

receiving a data content part of a first packet;

receiving a first destination address part of the first packet;

receiving a second destination address part of the first packet;

receiving a first reliable unicast header part of the first packet that corresponds to the first destination address; and

receiving a second reliable unicast header part of the first packet that corresponds to the second destination address.

31. The computer readable medium according to claim 30 further comprising programming instructions for:

determining a first next hop address based on the first destination address; and

determining a second next hop address based on the second destination address

comparing the first next hop to the second next hop;

in the case that the first next hop is not equal to the second next hop;

forming a second packet including the data content part of the first packet, the first reliable unicast header part of the first packet, and first destination address;

forwarding the second packet to the first next hop address;

forming a third packet including the data content part of the first packet, the second reliable unicast header part of the first packet, and the second destination address; and

forwarding the third packet to the second next hop address.

32. A method in a network server for distributing information over a network, the method comprising the steps of:

receiving a first request for a first item of information from a first networked device associated with a first TCP header information;

receiving a second request for the first item of information from a second networked device associated with a second TCP header information;

providing a combined packet including

at least one address information corresponding to the first networked device and the second networked device,

the first TCP header information and second TCP header information, and

a data payload that includes at least a part of the first item of information being requested by the first networked device and by the second networked device; and

sending the combined packet into the network.

33. The method of claim 32, wherein the combined packet comprises a reliable multicast packet.